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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,450	04/04/2006	Guofu Zhou	NL 031182	9331

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER
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MOY, ANNIE

ART UNIT	PAPER NUMBER
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4147

MAIL DATE	DELIVERY MODE
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12/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,450	<b>Applicant(s)</b> ZHOU ET AL.	
	<b>Examiner</b> ANNIE MOY	<b>Art Unit</b> 4147	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the drawing should be clearly label. Figure 3 should have labels in the boxes (i.e. averaging device, driver, etc). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*

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*Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Provisional Double Patenting	
Patent Application	Co-Pending Application (US 2006/0232548 A1)
1. An electrophoretic display panel for subsequently displaying pictures comprising a plurality of picture elements, each picture element comprising two electrodes for receiving a potential difference and charged particles being able to occupy positions between the electrodes, and drive means being able to supply to each picture element a picture pulse, each picture pulse being a sequence of potential difference pulses and comprising a response-increasing pulse for increasing the ability of the particles to respond to the potential difference without substantially changing the position of the particles, and a drive pulse for bringing the particles into one of the positions for displaying the respective picture, characterized in that, with respect to at least a number of the picture elements, <b>for each picture element out of said number the display panel further comprises averaging means for providing information with respect to an accumulation of charge in the picture element, which accumulation of charge is a result from picture pulses preceding the response-increasing pulse, and the drive means are further arranged to select, based on the information, a time average of the response-increasing pulse to reduce an undesired charge accumulation in the picture element.</b>	1. An electrophoretic display panel for displaying a picture comprising a plurality of picture elements, each picture element comprising two electrodes for receiving a potential difference and charged particles being able to occupy positions between the electrodes, and drive means being able to supply a sequence of potential difference pulses to each picture element, each sequence comprising a response-changing pulse for changing the ability of the particles to respond to the potential difference without substantially changing the position of the particles, and a picture pulse for bringing the particles into one of the positions for displaying the picture, characterized in that, with respect to at least a number of the picture elements, <b>the drive means are further able to supply for each picture element out of said number a part of the picture pulse before an end of the response-changing pulse.</b>

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3. Claim 1 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of copending Applications No. US 2006/0232548 A1. This is a provisional obvious double patenting rejection since the conflicting claims have not in fact been patented.

Regarding claim 1, Claim 1 of the application is broader than claim 1 of the co-pending application “US 2006/0187186 A1” i.e., applicant has a drive means and it can supply a picture pulse to the picture element, but does not specify supplying a pulse before response-changing pulse

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Guo-Fu Zhou (US 7,126,577 B2 “Zhou” hereinafter) in view of Holly Gates (US 6,504,524B1 “Gates” hereinafter).

Regarding Claim 1, Zhou discloses “An electrophoretic display panel for subsequently displaying pictures comprising a plurality of picture elements, each picture element comprising two electrodes for receiving a potential difference and charged particles being able to occupy positions between the electrodes,” (See Figure 1 column 4 lines 20-30,i.e. there are picture electrodes and counter electrodes and the capsule holds the particles, which are between the electrodes ); “and drive means being able to supply to each picture element a picture pulse, each

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picture pulse being a sequence of potential difference pulses”(See Figure 6 column 5 lines 59-62, i.e. a driver is supplying pulses to the display element, which are voltages.);” comprising a response-increasing pulse for increasing the ability of the particles to respond to the potential difference without substantially changing the position of the particles,”(See column 2 lines 9-13, i.e. there is a pulse which lets the particles respond by shaking loose the other particle, but the pulse is too low for the particles to move ); “and a drive pulse for bringing the particles into one of the positions for displaying the respective picture, characterized in that, with respect to at least a number of the picture elements,” (See column 4 lines 30-34, i.e. the particles move to one side of the display so the view can see the displayed element. There are a few display elements that can do the same thing), but does not disclose an averaging function.

However, Gates discloses “for each picture element out of said number the display panel further comprises averaging means for providing information with respect to an accumulation of charge in the picture element, which accumulation of charge is a result from picture pulses preceding the response-increasing pulse,”(See column 19 lines 64-67 and column 1-12, i.e. Gates invention takes integral of the pulses to get the residual values in volt-seconds, which is what “averaging” applicants specification. Also the Gates invention can calculate the integral of multiple addressing signals which includes preceding pulses. This is done to get the display elements to be displayed) “and the drive means are further arranged to select, based on the information, a time average of the response-increasing pulse to reduce an undesired charge accumulation in the picture element.” (See column 20 lines 9-21, i.e. calculations of the address signal which include response-increasing pulses are calculated and then a time average is later selected based on the calculations).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhou's electrophoretic device with Gates's addressing scheme because Zhou and Gates are analogous art and Gates is trying to improve the durability of the electrophoretic display

As for claim 2, in view of claim 1, Gates discloses "the response-increasing pulse has a response-increasing value and an associated response-increasing duration, the product of which represents a response-increasing energy," (See column 2 lines 49-53, i.e. the first addressing signal works like the response –increasing pulse because it lets the particles response to the pulses but not enough to move them a lot. The first addressing signal has a voltage and time duration. Gates also discloses as mention earlier that it can take the product of the addressing periods); "the drive pulse has a drive value and an associated drive duration, the product of which represents a drive energy," (See column 2 lines 53-59, i.e. the second addressing signal drives the particles into moving. The second addressing signal has a voltage and time duration. Gates also discloses as mention earlier that it can take the product of the addressing periods); "the averaging means are able to receive data representative of the response-increasing energy and the drive energy of the picture pulses preceding said response-increasing pulse, and provide a running total thereof," (See column 2 lines 62-67 and column 20 lines 1-10, i.e. signal controller takes the first addressing signal and second addressing signal and sum them to get a value); "and the drive means are further arranged to select the time average of the response-increasing pulse such that the magnitude of said running total is reduced." (See column 20 lines 9-21, i.e. where a pre-signal can select the magnitude as a function of time and duration. Since

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running total is the sum of response-increasing pulse and drive energy. One only needs to select a value smaller than previous pulse to have a smaller running time).

As for claim 3, in view of claim 2, Gates discloses “the averaging means are able to receive data representative of the response-increasing energy and the drive energy of the last picture pulse from the picture pulses preceding said response-increasing pulse,” (See Column 20 lines 9- 22, i.e. where one can get all the data of the addressing signal which would include the signal from the previous pulse) “the running total being equal to the sum of the response-increasing energy and the drive energy of the last picture pulse,” (See column 15 lines 43-47, i.e. the pre-addressing signal integral of the magnitude as a function of time is equal to the second addressing signal) “and the drive means are further arranged to select a sign of the time average of the response-increasing pulse to be opposite to a sign of the running total,” (See column 14 lines 16-35 and column 20 lines 1-15, i.e. after the residual value has been calculated, which is the running total, one can choose the polarity of the pre-addressing signal to be desired) “and the magnitude of the product of the response-increasing duration and the time average of the response-increasing pulse to be smaller or equal to the magnitude of the running total.” (See column 14 lines 16-35 and column 20 lines 1-15, i.e. after the residual value has been calculated, which is the running total, one can choose the polarity, the magnitude of the pre-addressing signal to be desired.)



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As for claim 4, in view of claim 2, Gates discloses “the magnitude of the product of the response-increasing duration and the time average of the response-increasing pulse is substantially equal to the magnitude of the running total.” (See column 14 lines 16-35 and column 20 lines 1-15, i.e. after the residual value has been calculated, which is the running total, one can choose the polarity, the magnitude of the pre-addressing signal to be desired).

As for claim 5, in view of claim 2, Gates discloses “the response-increasing pulse is the sum of an AC part,” (See figure 2B, i.e. represent on of the addressing pulses) “having an associated time average being substantially zero, and a DC part.” (See figure 2c and column 14 lines 22-25, i.e. figure 3 show DC voltage also it is well known to us DC voltages. Also there is an addressing signal which has a time average to be zero. One of the addressing signals is a response-increasing pulse).

As for claim 6, in view of claim 5, that the DC part is equal to a constant is inherent.

As for claim 7, in view of claim 5, Examiner takes official notice that DC is a decreasing function of time is well known in the art.

As for claim 8, in view of claim 5, Gates discloses “the function is substantially linear.” (See figure 2c, i.e. where a voltage is linear from  $t_0$  to  $t_3$ )

As for claim 9, in view of claim 5, Gates discloses “the AC part is a periodic function of time having constant amplitude.” (See figure 2B where this is a constant amplitude of the sinusoidal wave)

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As for claim 10, in view of claim 5, Examiner takes official notice that AC having a periodic function of time having a stepwise in time decreasing amplitude is well known in the art.

As for claim 11, in view of claim 5, Zhou discloses “the AC part is a series of pairs of sub-AC pulses, the two members of each pair having potential difference values of opposite polarity and substantially equal durations,” (See figure 7, i.e. where there are 6 pulses that has voltages that are opposite polarity); Gates discloses “the durations of the pairs in the series being a stepwise decreasing function of the serial number of the pairs in the series.” (See figure 2f, i.e. where the item 60 pulse and 63 pulses decrease in function of time)

As for claim 12, in view of claim 5, Zhou discloses “each picture element is one of the number of the picture elements.” (See column 4 lines 19-22, i.e. there are a few display elements)

As for claim 13, in view of claim 5, Zhou “A display device comprising the display panel as claimed in claim 1.” (See column 4 lines 19-22, i.e. figure 1 talk about an electrophoretic display).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNIE MOY whose telephone number is (571)270-7175. The examiner can normally be reached on Monday- Friday 8-4pm CT.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu-Oanh Bui can be reached on 571-272-7291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KIEU-OANH BUI/  
Supervisory Patent Examiner, Art Unit 4147

ANNIE MOY  
Examiner  
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